



BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XB404]

Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to Geophysical Surveys Related to Oil and Gas Activities in the Gulf of Mexico

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of issuance of Letters of Authorization.

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA), as amended, its implementing regulations, and NMFS' MMPA Regulations for Taking Marine Mammals Incidental to Geophysical Surveys Related to Oil and Gas Activities in the Gulf of Mexico, notification is hereby given that three Letters of Authorization (LOA) have been issued to bp Exploration & Production Inc. (bp) for the take of marine mammals incidental to geophysical survey activity in the Gulf of Mexico.

DATES: The LOAs are effective from January 1, 2022, through December 31, 2022.

ADDRESSES: The LOAs, LOA requests, and supporting documentation are available online at: www.fisheries.noaa.gov/action/incidental-take-authorization-oil-and-gas-industry-geophysical-survey-activity-gulf-mexico. In case of problems accessing these documents, please call the contact listed below (see **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: Ben Laws, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined “negligible impact” in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

Except with respect to certain activities not pertinent here, the MMPA defines “harassment” as any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by

causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

On January 19, 2021, we issued a final rule with regulations to govern the unintentional taking of marine mammals incidental to geophysical survey activities conducted by oil and gas industry operators, and those persons authorized to conduct activities on their behalf (collectively “industry operators”), in Federal waters of the U.S. Gulf of Mexico (GOM) over the course of 5 years (86 FR 5322; January 19, 2021). The rule was based on our findings that the total taking from the specified activities over the 5-year period will have a negligible impact on the affected species or stock(s) of marine mammals and will not have an unmitigable adverse impact on the availability of those species or stocks for subsistence uses. The rule became effective on April 19, 2021.

Our regulations at 50 CFR 217.180 *et seq.* allow for the issuance of LOAs to industry operators for the incidental take of marine mammals during geophysical survey activities and prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on marine mammal species or stocks and their habitat (often referred to as mitigation), as well as requirements pertaining to the monitoring and reporting of such taking. Under 50 CFR 217.186(e), issuance of an LOA shall be based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under these regulations and a determination that the amount of take authorized under the LOA is of no more than small numbers.

Summary of Request and Analysis

Bp plans to conduct three separate geophysical surveys, and submitted an LOA request for each survey. Each survey is a 3D ocean bottom node (OBN) survey within a

distinct bp prospect area. The surveys will occur within bp's Atlantis, Mad Dog, and Puma prospect areas, respectively. See Table 1 and Figure 1 of the respective LOA applications for more information regarding the location of these areas.

For each survey, bp anticipates using an airgun array consisting of 32 elements, with a total volume of 5,110 cubic inches (in³). Please see bp's applications for additional detail.

In addition to the previously described conventional airgun source arrays, bp would also use a proprietary low-frequency source ("Wolfspär") to supplement the quantity and quality of data collected during each survey. The Wolfspär source was not evaluated through the rule. However, our rule anticipated the possibility of new and unusual technologies (NUT) and determined they would be evaluated on a case-by case basis (86 FR 5322, 5442; January 19, 2021). In this case, as described below, our evaluation of the source leads to a conclusion that no take of marine mammals is likely to occur as a result of the source's use and, therefore, no additional review is necessary.

Wolfspär is a variable-frequency marine resonator that was developed to image subsurface features that are challenging to penetrate with other seismic sound sources. This source is designed to produce ultra-low frequency (from 1.4-16 Hz, but typically used to produce signals at 2-4 Hz) swept (non-impulsive) signals, and is used in tandem with conventional airgun acoustic sources. The Wolfspär source is towed at greater depth than conventional airgun sources (30-60 m compared with approximately 8-12 m). The system was tested in controlled environments in 2013-14, and an open-water system integration test was conducted in the GOM in 2014. Field trials were conducted in 2017-

18. The Wolfspar source has since been used consistently in association with bp's survey operations.

Wolfspar signal duration is tens of seconds, however, the total output of the Wolfspar source is less compared to the output of a typical large airgun array (1/1000th peak SPL; Dellinger *et al.*, 2016). Results of a sound source verification study conducted during the 2017-18 at-sea trials showed that (1) Wolfspar signals were consistently lower in amplitude than signals from the airgun array used in conjunction with Wolfspar, with frequency content mostly outside marine mammal hearing range, including their most susceptible hearing range for noise-induced hearing loss, and (2) signal amplitude was low enough that the Wolfspar source was often not detectable above background sound levels. Measured 12-second sound exposure level weighted for low-frequency cetaceans did not exceed 95 dB SEL (source level back-calculated assuming spherical spreading). The source produces harmonics (beyond the fundamental frequency of less than 17 Hz) of decreasing spectral amplitude up to 100 Hz. However, harmonics are at lower energy, and at higher frequencies (above the fundamental frequency) the dominant noise source is not the device itself, but the hydraulic power unit and the ship towing the device (absent concurrent use of conventional airgun sources). For reference, the hypothesized generalized hearing range of low-frequency cetaceans starts at 7 Hz, while those of mid- and high-frequency cetaceans are much higher (150 and 275 Hz, respectively), and the point of greatest sensitivity (*i.e.*, greatest susceptibility to noise-induced hearing loss) for these three groups is 1.7, 24, and 42 kHz, respectively. Therefore, marine mammals may not even detect the Wolfspar signals, much less suffer any consequences from exposure.

Because the source levels are lower than those of concurrently used airgun sources, and the frequency content of the signals is predominantly outside the hearing range of any marine mammal, NMFS concludes that use of the Wolfspar source presents no potential for impacts to marine mammals additional to those caused through use of the airgun array. Even absent concurrent airgun use, effects to marine mammals from the Wolfspar source are unlikely. Due to the signal characteristics of the sound source, *i.e.*, slow rise time and relatively low source levels, there is no potential for injury of marine mammals unless they occur at very close distances to the source (<10 m) for a prolonged continuous time period (*i.e.*, implausible circumstances). Broadband sounds produced by the vessel towing the Wolfspar source are expected to dominate the perceived soundscape (absent concurrent airgun use), masking sounds from Wolfspar at frequencies audible to marine mammals. NMFS considers impacts to marine mammals in association with use of the Wolfspar source to be discountable.

We also note that Wolfspar was assessed in 2017 as a NUT as part of BOEM Permit L17-011 Mod 2, and accordingly underwent Endangered Species Act (ESA) section 7 step-down review at that time. Subsequently, Wolfspar was again evaluated as a NUT and evaluated through step-down review under NMFS' 2020 Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico in association with BOEM Permit L20-026. As a result of this review, NMFS determined that use of the source is unlikely to result in additional effects beyond those previously considered in the 2020 Biological Opinion.

Consistent with the preamble to the final rule, the survey effort proposed by bp in its LOA requests was used to develop LOA-specific take estimates based on the acoustic

exposure modeling results described in the preamble (86 FR 5322, 5398; January 19, 2021). In order to generate the appropriate take number for authorization, the following information was considered: (1) survey type; (2) location (by modeling zone¹); (3) number of days; and (4) season.² The acoustic exposure modeling performed in support of the rule provides 24-hour exposure estimates for each species, specific to each modeled survey type in each zone and season.

Summary descriptions of the modeled survey geometries (*i.e.*, 2D, 3D NAZ, 3D WAZ, Coil) are available in the preamble to the proposed rule (83 FR 29212, 29220; June 22, 2018). 3D NAZ was selected as the best available proxy survey type. The OBN surveys will employ bottom-mounted receivers, or “nodes,” used in conjunction with a vessel-towed seismic source array. For each survey, bp will deploy up to 4,000 nodes which, when fully deployed, will cover approximately 400 km² of seafloor for a survey that covers an approximate sea surface area of 1,200 km². Two dual- or triple-source vessels will be used to produce acoustic pulses at regular spatial intervals across the node grid. The source vessels will survey along transect lines that extend through, and 10 km beyond, the node grid on each site. Note that all available acoustic exposure modeling results assume use of a 72-element, 8,000 in³ array. In this case, take numbers authorized through the LOAs are considered conservative (*i.e.*, they likely overestimate take) primarily due to differences in the airgun arrays planned for use by bp as compared to the array modeled for the rule.

¹ For purposes of acoustic exposure modeling, the GOM was divided into seven zones. Zone 1 is not included in the geographic scope of the rule.

² For purposes of acoustic exposure modeling, seasons include Winter (December-March) and Summer (April-November).

Each survey will take place for up to 50 days. Each of the prospect areas is located in the central GOM, roughly on the boundary of Zones 5 and 7. For each survey, it is assumed that 75 percent would occur in Zone 5 and 25 percent in Zone 7. The described distribution was selected based on the location of the prospect areas (the majority of total prospect area coverage is in Zone 5, with some overlap into Zone 7). The season is not known in advance. Therefore, the take estimates for each species are based on the season that has the greater value for the species (*i.e.*, winter or summer). Because all three surveys are the same in terms of location (*i.e.*, within the same zones), duration, and survey type, the following discussion and resulting take analysis in Table 1 below apply to each survey.

For some species, take estimates based solely on the modeling yielded results that are not realistically likely to occur when considered in light of other relevant information available during the rulemaking process regarding marine mammal occurrence in the GOM. Thus, although the modeling conducted for the rule is a natural starting point for estimating take, our rule acknowledged that other information could be considered (see, *e.g.*, 86 FR 5322, 5442 (January 19, 2021), discussing the need to provide flexibility and make efficient use of previous public and agency review of other information and identifying that additional public review is not necessary unless the model or inputs used differ substantively from those that were previously reviewed by NMFS and the public). For these surveys, NMFS has other relevant information reviewed during the rulemaking that indicates use of the acoustic exposure modeling to generate a take estimate for certain marine mammal species produces results inconsistent with what is known

regarding their occurrence in the GOM. Accordingly, we have adjusted the calculated take estimates as described below.

Rice's whales (formerly known as GOM Bryde's whales)³ are generally found within a small area in the northeastern GOM in waters between 100-400 meters (m) depth along the continental shelf break (Rosel *et al.*, 2016). Whaling records suggest that Rice's whales historically had a broader distribution within similar habitat parameters throughout the GOM (Reeves *et al.*, 2011; Rosel and Wilcox, 2014), and a NOAA survey reported observation of a Rice's whale in the western GOM in 2017 (NMFS, 2018). Habitat-based density modeling identified similar habitat (*i.e.*, approximately 100-400 m water depths along the continental shelf break) as being potential Rice's whale habitat (Roberts *et al.*, 2016), although a "core habitat area" defined in the northeastern GOM (outside the scope of the rule) contained approximately 92 percent of the predicted abundance of Rice's whales. See discussion provided at, *e.g.*, 83 FR 29212, 29228, 29280 (June 22, 2018); 86 FR 5322, 5418 (January 19, 2021).

Although it is possible that Rice's whales may occur outside of their core habitat, NMFS expects that any such occurrence would be limited to the narrow band of suitable habitat described above (*i.e.*, 100-400 m). Bp's planned activity will occur in water depths of approximately 1,200-2,300 m in the central GOM. Based on that information, NMFS does not expect there to be the reasonable potential for take of Rice's whale in association with these surveys and, accordingly, does not authorize take of Rice's whale through these LOAs.

³ The final rule refers to the GOM Bryde's whale (*Balaenoptera edeni*). These whales were subsequently described as a new species, Rice's whale (*Balaenoptera ricei*) (Rosel *et al.*, 2021).

Killer whales are the most rarely encountered species in the GOM, typically in deep waters of the central GOM (Roberts *et al.*, 2015; Maze-Foley and Mullin, 2006). The approach used in the acoustic exposure modeling, in which seven modeling zones were defined over the U.S. GOM, necessarily averages fine-scale information about marine mammal distribution over the large area of each modeling zone. NMFS has determined that the approach results in unrealistic projections regarding the likelihood of encountering killer whales.

As discussed in the final rule, the density models produced by Roberts *et al.* (2016) provide the best available scientific information regarding predicted density patterns of cetaceans in the U.S. GOM. The predictions represent the output of models derived from multi-year observations and associated environmental parameters that incorporate corrections for detection bias. However, in the case of killer whales, the model is informed by few data, as indicated by the coefficient of variation associated with the abundance predicted by the model (0.41, the second-highest of any GOM species model; Roberts *et al.*, 2016). The model's authors noted the expected non-uniform distribution of this rarely-encountered species (as discussed above) and expressed that, due to the limited data available to inform the model, it "should be viewed cautiously" (Roberts *et al.*, 2015).

NOAA surveys in the GOM from 1992-2009 reported only 16 sightings of killer whales, with an additional 3 encounters during more recent survey effort from 2017-18 (Waring *et al.*, 2013; www.boem.gov/gommapps). Two other species were also observed on fewer than 20 occasions during the 1992-2009 NOAA surveys (Fraser's dolphin and

false killer whale⁴). However, observational data collected by protected species observers (PSOs) on industry geophysical survey vessels from 2002-2015 distinguish the killer whale in terms of rarity. During this period, killer whales were encountered on only 10 occasions, whereas the next most rarely encountered species (Fraser's dolphin) was recorded on 69 occasions (Barkaszi and Kelly, 2019). The false killer whale and pygmy killer whale were the next most rarely encountered species, with 110 records each. The killer whale was the species with the lowest detection frequency during each period over which PSO data were synthesized (2002-2008 and 2009-2015). This information qualitatively informed our rulemaking process, as discussed at 86 FR 5322, 5334 (January 19, 2021), and similarly informs our analysis here.

The rarity of encounter during seismic surveys is not likely to be the product of high bias on the probability of detection. Unlike certain cryptic species with high detection bias, such as *Kogia* spp. or beaked whales, or deep-diving species with high availability bias, such as beaked whales or sperm whales, killer whales are typically available for detection when present and are easily observed. Roberts *et al.* (2015) stated that availability is not a major factor affecting detectability of killer whales from shipboard surveys, as they are not a particularly long-diving species. Baird *et al.* (2005) reported that mean dive durations for 41 fish-eating killer whales for dives greater than or equal to 1 minute in duration was 2.3-2.4 minutes, and Hooker *et al.* (2012) reported that killer whales spent 78 percent of their time at depths between 0-10 m. Similarly, Kvadsheim *et al.* (2012) reported data from a study of four killer whales, noting that the

⁴ However, note that these species have been observed over a greater range of water depths in the GOM than have killer whales.

whales performed 20 times as many dives 1-30 m in depth than to deeper waters, with an average depth during those most common dives of approximately 3 m.

In summary, killer whales are the most rarely encountered species in the GOM and typically occur only in particularly deep water. While this information is reflected through the density model informing the acoustic exposure modeling results, there is relatively high uncertainty associated with the model for this species, and the acoustic exposure modeling applies mean distribution data over areas where the species is in fact less likely to occur. NMFS' determination in reflection of the data discussed above, which informed the final rule, is that use of the generic acoustic exposure modeling results for killer whales will generally result in estimated take numbers that are inconsistent with the assumptions made in the rule regarding expected killer whale take (86 FR 5322, 5403; January 19, 2021).

In past authorizations, NMFS has often addressed situations involving the low likelihood of encountering a rare species such as killer whales in the GOM through authorization of take of a single group of average size (*i.e.*, representing a single potential encounter). See 83 FR 63268, December 7, 2018. See also 86 FR 29090, May 28, 2021; 85 FR 55645, September 9, 2020. For the reasons expressed above, NMFS determined that a single encounter of killer whales is more likely than the model-generated estimates and has authorized take associated with a single killer whale group encounter (*i.e.*, up to 7 animals) for each LOA.

Based on the results of our analysis, NMFS has determined that the level of taking expected for each of these surveys and authorized through the LOAs is consistent with

the findings made for the total taking allowable under the regulations. See Table 1 in this document and Table 9 of the final rule (86 FR 5322; January 19, 2021).

Small Numbers Determinations

Under the GOM rule, NMFS may not authorize incidental take of marine mammals in an LOA if it will exceed “small numbers.” In short, when an acceptable estimate of the individual marine mammals taken is available, if the estimated number of individual animals taken is up to, but not greater than, one-third of the best available abundance estimate, NMFS will determine that the numbers of marine mammals taken of a species or stock are small. For more information please see NMFS’ discussion of the MMPA’s small numbers requirement provided in the final rule (86 FR 5322, 5438; January 19, 2021).

The take numbers for each authorization are determined as described above. Subsequently, the total incidents of harassment for each species may be multiplied by scalar ratios to produce a derived product that better reflects the number of individuals likely to be taken within a survey (as compared to the total number of instances of take), accounting for the likelihood that some individual marine mammals may be taken on more than one day (see 86 FR 5322, 5404; January 19, 2021). The output of this scaling, where appropriate, is incorporated into an adjusted total take estimate that is the basis for NMFS’ small numbers determinations, as depicted in Table 1.

This product is used by NMFS in making the necessary small numbers determinations, through comparison with the best available abundance estimates (see discussion at 86 FR 5322, 5391; January 19, 2021). For this comparison, NMFS’ approach is to use the maximum theoretical population, determined through review of

current stock abundance reports (SAR; www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments) and model-predicted abundance information (<https://seamap.env.duke.edu/models/Duke/GOM/>). For the latter, for taxa where a density surface model could be produced, we use the maximum mean seasonal (*i.e.*, three-month) abundance prediction for purposes of comparison as a precautionary smoothing of month-to-month fluctuations and in consideration of a corresponding lack of data in the literature regarding seasonal distribution of marine mammals in the GOM. Information supporting the small numbers determinations is provided in Table 1. (Note that, because take numbers for each of the three surveys are the same, the small numbers analysis applies to each survey).

Table 1. Take Analysis per Survey/LOA.

Species	Authorized take	Scaled take ¹	Abundance ²	Percent abundance
Rice's whale	0	n/a	51	n/a
Sperm whale	1,712	724.1	2,207	32.8
<i>Kogia</i> spp.	635 ³	215.4	4,373	4.9
Beaked whales	8,404	848.8	3,768	22.5
Rough-toothed dolphin	1,208	346.8	4,853	7.1
Bottlenose dolphin	5,689	1,632.9	176,108	0.9
Clymene dolphin	3,823	1,097.3	11,895	9.2
Atlantic spotted dolphin	2,205	632.8	74,785	0.8
Pantropical spotted dolphin	19,751	5,668.4	102,361	5.5
Spinner dolphin	4,211	1,208.6	25,114	4.8
Striped dolphin	1,551	445.0	5,229	8.5
Fraser's dolphin	448	128.5	1,665	7.7
Risso's dolphin	1,089	321.3	3,764	8.5
Melon-headed whale	2,467	727.8	7,003	10.4
Pygmy killer whale	582	171.6	2,126	8.1
False killer whale	871	257.0	3,204	8
Killer whale	7	n/a	267	2.6
Short-finned pilot whale	648	191.1	1,981	9.6

¹Scalar ratios were applied to "Authorized Take" values as described at 86 FR 5322, 5404 (January 19, 2021) to derive scaled take numbers shown here.

²Best abundance estimate. For most taxa, the best abundance estimate for purposes of comparison with take estimates is considered here to be the model-predicted abundance (Roberts *et al.*, 2016). For those taxa

where a density surface model predicting abundance by month was produced, the maximum mean seasonal abundance was used. For those taxa where abundance is not predicted by month, only mean annual abundance is available. For Rice's whale and the killer whale, the larger estimated SAR abundance estimate is used.

³Includes 17 takes by Level A harassment and 618 takes by Level B harassment. Scalar ratio is applied to takes by Level B harassment only; small numbers determination made on basis of scaled Level B harassment take plus Level A harassment take.

Based on the analysis contained herein of bp's proposed survey activity described in its LOA applications and the anticipated take of marine mammals, NMFS finds that for each issued LOA small numbers of marine mammals will be taken relative to the affected species or stock sizes (*i.e.*, less than one-third of the best available abundance estimate) and therefore the taking is of no more than small numbers.

Authorization

NMFS has determined that the level of taking for these LOA requests is consistent with the findings made for the total taking allowable under the incidental take regulations and that the amount of take authorized under each of the LOAs is of no more than small numbers. Accordingly, we have issued three LOAs to bp authorizing the take of marine mammals incidental to its geophysical survey activity, as described above.

Kimberly Damon-Randall,

Director, Office of Protected Resources,

National Marine Fisheries Service.

[FR Doc. 2021-21935 Filed: 10/6/2021 8:45 am; Publication Date: 10/7/2021]